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LETTER DISCUSSING CORRECTIVE MEASURES STUDY ADDENDUMS FOR SOLID  
WASTE MANAGEMENT UNITS 7, 8 AND 55 NAVACT PUERTO RICO  
3/8/2012  
U S EPA REGION II



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 REGION 2  
 290 BROADWAY  
 NEW YORK, NY 10007-1866

MAR 08 2012

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. Mark E. Davidson  
 US Navy  
 BRAC PMO SE  
 4130 Faber Place Drive  
 Suite 202  
 North Charleston, SC 29405

Re: Naval Activity Puerto Rico (NAPR), formerly Naval Station Roosevelt Roads,  
 EPA I.D. Number PRD2170027203

1) SWMU 7 & 8 (Tow Way Fuel Farm) – CMS Addendum – Revised Soil Remedy;  
 Statement of Basis – Proposed Final Soil Remedy; CMI Plan (Groundwater); MNA  
 Groundwater Sampling & Analysis Plan; MNA Groundwater Sampling & Analysis  
 Annual Report, all dated November 2011 (but transmitted to EPA in January 2012)

2) SWMU 55 (TCE Groundwater Plumes near Tow Way Fuel Farm) –CMS Addendum  
 Report; CMI Plan; and Sampling & Analysis Plan, all dated January, 2012

Dear Mr. Davidson:

This letter is addressed to you as the Navy's designated project coordinator pursuant to the January 29, 2007 RCRA Administrative Order on Consent ("the Consent Order") between the United States Environmental Protection Agency (EPA) and the U.S. Navy (the Navy).

SWMU 7 & 8 – CMS Addendum – Revised Soil Remedy; Statement of Basis – Proposed Final  
 Soil Remedy

EPA has completed its review of the CMS Addendum – Revised Soil Remedy and Statement of Basis – Proposed Final Soil Remedy, submitted by Mr. Tom Beisel's (of AGVIO/CH2MHill) letter of January 5, 2012, on behalf of the Navy. As part of that review EPA requested that our consultant, TechLaw Inc, also review the documents. TechLaw's comments are given in two Technical Reviews, dated February 29, 2012, which I had previously Emailed to you on March 2, 2012.

Based on those reviews, EPA has determined that the corrective action objectives (CAOs) for soils utilized in the CMS Addendum are based on the CAOs developed in the November 2005 CMS Report prepared by Baker Environmental, Incorporated. Although the 2005 CMS was subsequently approved with conditions by EPA in February 2006, its CAOs were established

using pre-2005 EPA Region 3 Risk-based Concentrations (RBCs). The Region 3 RBCs have been replaced for risk assessment screening purposes by the more recently-established EPA national Regional Screening Levels (RSLs).

The CAOs established in the 2005 CMS Report were predicated on now out-dated human health toxicity criteria and assessment methodologies. The most current, relevant EPA health-based screening criteria for initial screening purposes are the EPA Regional Screening Levels (RSLs), dating from November 2011. With respect to the polynuclear aromatic hydrocarbons (PAHs) at SWMUs 7/8, the residential CAO for soil developed in 2005 and now proposed in the CMS Addendum for PAH exposures is 0.088 mg/kg. The current PAH residential screening concentration based on the November 2011 RSLs is 0.015 mg/kg. This is a less than order-of-magnitude reduction from the RBC based 2005 CAO, translating to a less than order-of-magnitude increase in associated carcinogenic risk, based on a target risk of 1E-06 or an increase in allowable *in situ* risk of approximately 6E-06.

Likewise, based on the November 2011 RSLs, the industrial soil screening criteria for soils has been reduced from the 2005 CAO of 0.78 mg/kg to a concentration value of 0.21 mg/kg.

As noted in Section 3.1, site-wide risks associated with PAHs are expected to be low based on the fact that the original residential CAO of 0.088 mg/kg was not exceeded in any of the samples, even in the one duplicate sample where a low positive result was recorded.

The issue of utilizing the newer RSL screening criteria, versus the pre-2005 RBCs also impacts the background assessment of arsenic. The 2005 residential CAO is 2.65 mg/kg arsenic, while the November 2011 residential soil RSL is 0.39 mg/kg arsenic. Utilizing the RSL for arsenic results in a near order-of-magnitude increase in the associated risk for residual exposure to arsenic concentrations of 2.65 mg/kg that would be left in the soil based on the 2005 CAO.

The conclusion in Section 4.2 of the CMS Addendum that "no institutional controls will be recommended for site soils/surface media at SWMUs 7/8" is not acceptable. In addition to EPA's above described concerns with the continued usage of the 2005 CAOs for PAHs and arsenic based on pre-2005 Region 3 risk-based concentrations (RBCs), rather than the more protective 2011 RSLs, EPA also notes the following additional factors that warrant institutional controls being placed on the site for surface and subsurface soils:

- Section 1.1 of the CMS Addendum indicates that nine underground storage tanks (USTs), used for the storage of marine diesel fuel, jet fuel (JP-5) and Bunker C fuel, were located throughout SWMU 7/8. Two of the tanks were removed in 1996, which also required the removal of 329 tons of contaminated soils. In March 2004, fuel storage and distribution operations were discontinued and the remaining seven USTs and associated piping were drained and are empty. The section goes on to state that "During the facility's operational history, numerous releases have occurred from the USTs and associated pipelines." Based on the presence of existing USTs and piping, and known releases during the operational history of the unit, it would appear that

institutional controls should be placed on this property to control future excavation activities, as any future residential or commercial/industrial development including excavation/construction would result in the need to remove and possibly remediate USTs and associated piping. In fact, several 0 to 2 foot soil samples could not be collected during the 2009 sampling event due to the presence of tanks or piping in the shallow subsurface which indicates that the tanks/piping would be encountered even in shallow excavations.

- EPA's February 2006 approval of the November 2005 CMS Report (contained in Appendix D of the CMS Addendum) stated "Specifically, this proposed Corrective Measure/final remedy includes: ... placement of land use controls/institutional controls over the areas impacted by releases from Tow Way Fuel Farm (SWMU 7 and 8). Such land use controls/institutional controls would include: 1) prohibition of development of buildings on the site that may be occupied by humans ..." It should be noted that this prohibition on the development of residential buildings was included along with a requirement to excavate surficial soils exceeding the CAOs of 2.65 mg/kg arsenic and PAH concentrations of 0.78 mg/kg. Based on the above discussed recommended usage of the newer RSLs to set CAOs, instead of the pre-2005 RBCs, EPA considers the need for institutional controls to prevent future residential usage to still be warranted.

Therefore, EPA request that the CMS Addendum be revised to include specific institutional controls, as discussed above, that "run-with-the land" (i.e., will remain applicable to future owners) so as to prevent future residential usage, unless additional corrective measures are implemented which allow future unrestricted/residential usage.

Any changes in the approach as outlined in the CMS Addendum with respect to the PAHs and arsenic will need to be applied in the Statement of Basis.

Within sixty days of the date of your receipt of this letter, please submit a revised CMS Addendum for the surface and subsurface soils and a revised Statement of Basis, which address the above comments and those in the two Technical Reviews, dated February 29, 2012, which I had previously Emailed to you on March 2, 2012. The revised documents should be dated with the actual date of submission to EPA, not some earlier date.

In addition, the Puerto Rico Environmental Quality Board (PREQB) in two letters dated January 23, 2012, both addressed to myself, indicated that they had no further comments on the CMS Addendum and the Statement of Basis on the Soil Remedy. I had previously Emailed those letters to you on March 2, 2012.

SWMU 7 & 8 – CMI Plan (Groundwater); MNA Groundwater Sampling & Analysis Plan; MNA Groundwater Sampling & Analysis Annual Report

EPA has completed its review of the CMI Plan (Groundwater), and the MNA Sampling and Analysis Plan (SAP) and the MNA Groundwater Sampling report, submitted by Mr. Tom Beisel's (of AGVIO/CH2MHill) letter of January 5, 2012, on behalf of the Navy. As part of that review EPA requested that our consultant, TechLaw Inc, also review the documents. TechLaw's comments are given in three Technical Reviews, dated February 28, 2012, which I had Emailed to you on March 2, 2012.

The CMI Plan needs to more clearly describe its scope as regards all the impacted media (surface and subsurface soils, and groundwater) at the site, and the totality of contaminants identified at the site as constituents of concern in the various impacted media. In addition, since monitored natural attenuation (MNA) appears to be a significant component of the groundwater remedy, the CMI plan needs to be revised to include a description of the MNA portion of the remedy, and its relationship to the LNAPL removal. Also, the CMI needs to demonstrate that it is consistent with EPA's guidance "Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites", dated April 1999 (OSWER Directive 9200.4.-17P), and the CMI needs to cite the proposed MNA Sampling and Analysis Plan (SAP).

Within sixty days of the date of your receipt of this letter, please submit a revised CMI Plan, MNA Sampling and Analysis Plan (SAP) and the MNA Groundwater Sampling report, which address the above comments and those in the three Technical Reviews, dated February 28, 2012, which I had previously Emailed to you on March 2, 2012. The revised documents should be dated with the actual date of submission to EPA, not some earlier date.

In addition, the Puerto Rico Environmental Quality Board (PREQB) in its letter dated January 23, 2012, addressed to myself, had two comments on the CMI Plan, and in its January 24, 2012 letter to me indicated that the MNA SAP was acceptable. I had previously Emailed those letters to you on March 2, 2012. Please address PREQB's comments on the CMI Plan when you revise it to address EPA's above comments.

SWMU 55 (TCE Groundwater Plumes near Tow Way Fuel Farm) – CMS Addendum Report; CMI Plan; and Sampling & Analysis Plan

EPA has completed its review of the CMS Addendum Report for TCE, CMI, and Sampling and Analysis Plan (SAP), submitted by Mr. Tom Beisel's (of AGVIO/CH2MHill) letter of January 12, 2012, on behalf of the Navy. As part of that review EPA requested that our consultant, TechLaw Inc, also review the documents. TechLaw's comments are given in their three Technical Reviews, dated February 27, 2012, which I had previously Emailed to you on March 1, 2012.

While, it is not EPA's intention to delay implementation of the proposed CMI work, the January 2012 SWMU 55 documents are not sufficiently comprehensive for a Final Remedy decision to be based on them. The CMS Addendum does not addresses all requirements given in Attachment IV (Scope of Work for a Corrective Measures Study) of the 2007 RCRA Consent Order, especially with regards to the evaluations listed under Task III (Justification of the Corrective Measure) of the Scope of Work. This includes the evaluations required under Task III.A (Technical), III.B (Human Health); and III.C (Environmental). Likewise, the CMI does not meet the minimum requirements outlined in the Final RCRA Corrective Action Plan, OSWER 9902.3-2A, dated May 1994 (CA Guidance) relative to the remedy design plans and specifications that are based on the conceptual design. If the January 2012 documents are to be the basis for a Final Remedy decision, they will need to be revised as discussed above and in the three Technical Reviews, dated February 27, 2012, which I had previously Emailed to you on March 1, 2012.

Within seventy five (75) days of the date of your receipt of this letter, please submit a revised CMS Addendum, CMI Plan, and the Sampling and Analysis Plan (SAP) for SWMU 55, which address the above comments and those in the three Technical Reviews, dated February 27, 2012.

In addition, the Puerto Rico Environmental Quality Board (PREQB) in its letter of January 31, 2012 addressed to myself had several comments on the CMS Addendum, and in a second letter of January 31, 2012, also addressed to me, indicated they had no comments on the CMI Plan. I had previously Emailed both letters to you on March 2, 2012. Please address PREQB's comments on the CMS Addendum them when you revise the CMS Addendum to address EPA's above comments.

However, PREQB has indicated it will not complete its review of the SWMU 55 SAP until the end of March 2012. Therefore, if PREQB's comments on the SAP are received by the Navy by the end of March, please also address them when you revise the SAP to address EPA's above comments.

If you have any questions, please telephone me at (212) 637- 4167.

Sincerely yours,



Timothy R. Gordon  
Project Coordinator  
Corrective Action & Special Projects Section  
RCRA Programs Branch

cc: Ms. Wilmarie Rivera, P.R. Environmental Quality Board  
Ms. Gloria Toro, P.R. Environmental Quality Board  
Mr. Mark Kimes, Baker Environmental  
Mr. Stacin Martin, US Navy  
Mr. Tom Beisel, AGVIO/CH2MHill  
Ms. Cathy Dare, TechLaw Inc.  
Mr. Felix Lopez, USF&WS.